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AJO PEAK TO TINAJAS ALTAS: A FLORA OF SOUTHWESTERN ARIZONA PART 2. THE CHECKLIST

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ABSTRACT

A checklist is provided for the modern and fossil vascular plant flora of the contiguous protected areas of Organ Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, and the Tinajas Altas Region in southwestern Arizona. The modern flora includes 741 native and non-native taxa. The fossil record includes more than 219 species documented by specimens recovered from packrat (*Neotoma* spp.) middens spanning the last 43,000+ years. An additional checklist is provided for the approximately 135 taxa restricted to higher-elevation mountains in Organ Pipe Cactus NM. This article is the second contribution for our flora of southwestern Arizona.

KEY WORDS: Sonoran Desert, vascular plant flora, Arizona, Organ Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, Tinajas Altas, deep history, non-native species, desert sky islands

This article provides a checklist for the vascular plant flora of the three contiguous protected areas of Organ Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, and the Tinajas Altas Region in southwestern Arizona—the heart of the Sonoran Desert (Figure 1). These three entities encompass 514,242 hectares (1,270,700 acres), approximately 5141 km^2 (1985 mi^2). This listing includes the modern flora documented by botanists as well as the fossil record based on specimens collected and curated by packrats (*Neotoma* sp.). The modern flora includes at least 741

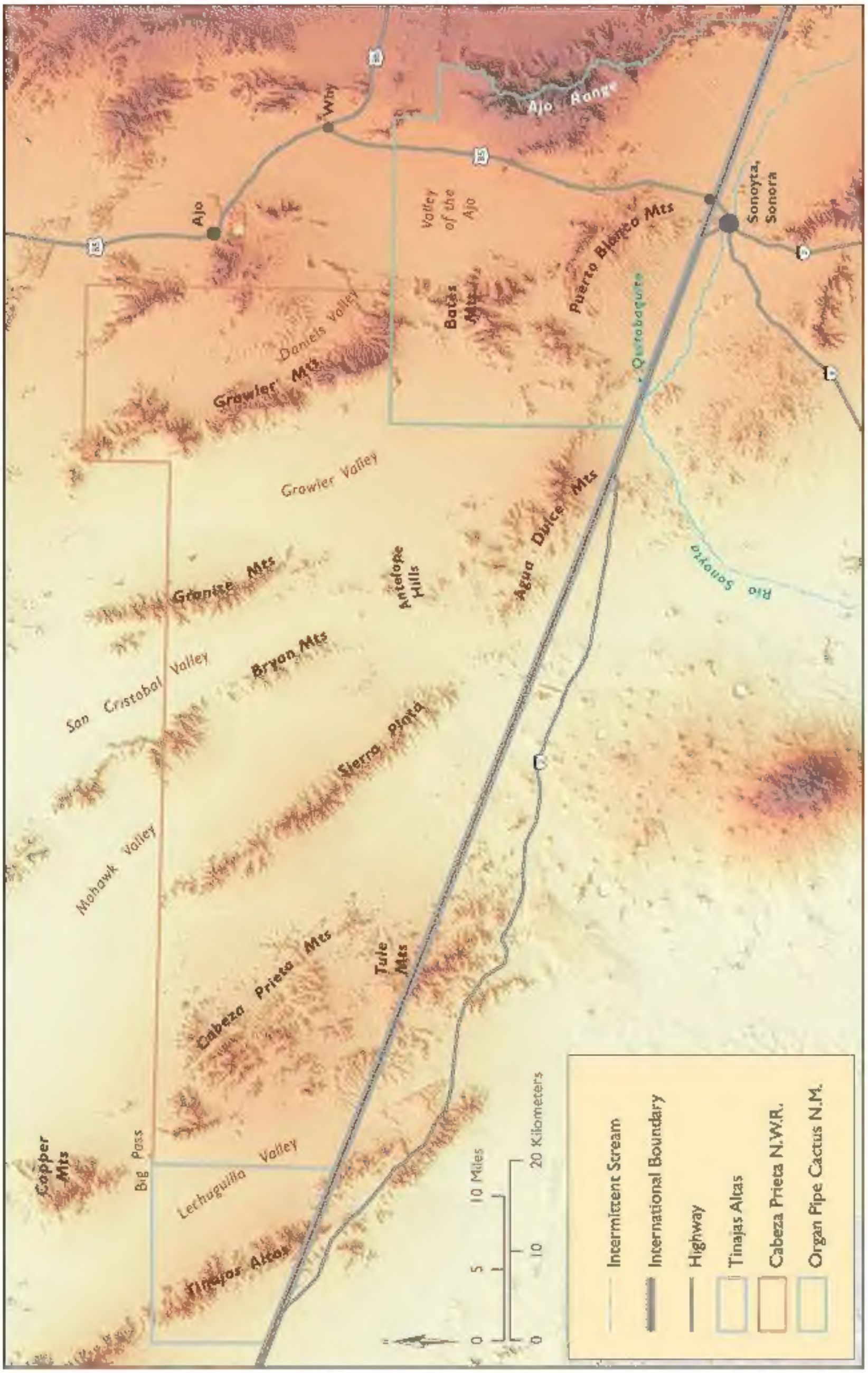

Figure 1. Map of the flora area in southwestern Arizona. Map created by Ami Pate of Organ Pipe Cactus National Monument.

native and non-native taxa and is specimen-based. The fossil record includes more than 219 species documented by specimens recovered from packrat (*Neotoma* spp.) middens spanning the last 43,000+ years (43,000 ybp to modern times). Van Devender sampled and studied numerous middens across the flora area at 240–975 m (787–3200 ft) elevation (see Felger et al. 2012a, 2013). Following the full checklist of the three protected areas is a checklist of approximately 135 taxa restricted to the Ajo Mountains and other higher mountains in Organ Pipe, most of which are essentially desert sky island populations.

Synonyms are provided and cross-indexed only for taxonomic changes not shown in the more detailed checklist of the modern flora of the area published in Canotia (Felger et al. 2012b), and additional taxonomic updates can be expected in forthcoming floristic treatments of our flora. Family designations follow APG III. Non-native plants established as reproducing populations in the flora area are indicated with an asterisk (*) and non-native species not established as reproducing populations are marked with two asterisks (**). Present-day taxa also known from the fossil record are indicated with a dagger symbol (†), and those no longer present in the flora area are indicated with two daggers (††). Some fossils not identifiable to species are shown with dagger symbols and a question mark (††?); these include ones identifiable only to genus, or a species group, or one of two species, and may be the same as modern taxa or ones no longer present in the flora area. These same symbols will be used throughout forthcoming contributions to our flora of the three protected areas in southwestern Arizona. The individual taxonomic complexities including the fossil specimens will be discussed and interpreted in the species accounts in forthcoming contributions.

This article is the second contribution for our flora in southwestern Arizona (Felger et al. 2013). The first article in this series includes maps and brief descriptions of the physical, biological, ecologic, floristic, and deep history makeup of the flora area. Considerable additional background information can be found in web sites for Organ Pipe and Cabeza Prieta, e.g., Organ Pipe Cactus National Monument (2011) and Slone (2011). This flora will be published in segments in forthcoming articles in Phytoneuron and will also be posted open access on the website of the University of Arizona Herbarium (ARIZ).

MODERN AND FOSSIL TAXA IN ORGAN PIPE CACTUS NATIONAL MONUMENT, CABEZA PRIETA NATIONAL WILDLIFE REFUGE, AND THE TINAJAS ALTAS REGION

PTERIDOPHYTES

MARSILEACEAE
Marsilea vestita Hooker & Greville

PTERIDACEAE
Argyrochosma limitanea (Maxon) Windham subsp. limitanea
Astrolepis cochisensis (Goodding) D.M. Benham & Windham
Astrolepis sinuata (Lagasca ex Swartz) D.M. Benham & Windham subsp. sinuata
Bommeria hispida (Mettenius ex Kuhn) Underwood
Cheilanthes lindheimeri Hooker
Cheilanthes parryi (D.C. Eaton) Domin
Cheilanthes villosa Davenport ex Maxon
Cheilanthes wrightii Hooker
Cheilanthes yavapensis T. Reeves ex Windham
Notholaena californica D.C. Eaton subsp. californica
Notholaena standleyi Maxon

Pellaea truncata Goodding
Pentagramma triangularis (Kaulfuss) Yatskievych et al. var. maxonii (Weatherby) Yatskievych et al.

LYCOPODS

SELAGINELLACEAE
†Selaginella arizonica Maxon
Selaginella eremophila Maxon

GYMNOSPERMS

CUPRESSACEAE
Juniperus arizonica R.P. Adams
††Juniperus californica Carrière
††Juniperus cf. osteosperma (Torrey) Little
††Juniperus scopulorum Sargent

EPHEDRACEAE
†Ephedra aspera Engelmann ex S. Watson
[E. fasciculata A. Nelson]

PINACEAE
††Pinus edulis Engelmann var. fallax Little

MAGNOLIIDS

ARISTOLOCHIACEAE
Aristolochia watsonii Wooton & Standley

SAURURACEAE
Anemopsis californica (Nuttall) Hooker & Arnott

EUDICOTS

ACANTHACEAE
Anisacanthus thurberi (Torrey) A. Gray
Carlowrightia arizonica A. Gray
Dicliptera resupinata (Vahl) de Jussieu
Justicia californica (Bentham) D.N. Gibson
†Justicia candicans (Nees) L.D. Benson
Justicia longii Hilsenbeck
Ruellia nudiflora (Engelmann & A. Gray) Urban

ADOXACEAE
**Sambucus cerulea Rafinesque

AIZOACEAE
*Mesembryanthemum crystallinum Linnaeus
*Mesembryanthemum nodiflorum Linnaeus
Trianthema portulacastrum Linnaeus

AMARANTHACEAE (includes Chenopodiaceae)
*Amaranthus albus Linnaeus
Amaranthus crassipes Schlechtendahl var. crassipes
†Amaranthus fimbriatus (Torrey) Bentham ex S. Watson
†Amaranthus palmeri S. Watson
Amaranthus ×tucsonensis Henrickson
††?Amaranthus sp./spp.
†Atriplex canescens (Pursh) Nuttall subsp. canescens
††Atriplex confertifolia (Torrey & Frémont) S. Watson
†Atriplex elegans (Moquin-Tandon) D. Dietrich
Atriplex lentiformis (Torrey) S. Watson subsp. lentiformis
Atriplex linearis S. Watson
Atriplex pacifica A. Nelson
†Atriplex polycarpa (Torrey) S. Watson
**Bassia hyssopifolia (Pallas) Kuntze
*Chenopodium murale Linnaeus
Chenopodium watsonii A. Nelson
††?Froelichia sp.
Gomphrena sonorae Torrey
Monolepis nuttalliana (Schultes) Greene
Nitrophila occidentalis (Moquin-Tandon) S. Watson
*Salsola tragus Linnaeus
Suaeda nigra (Rafinesque) J.F. Macbride
Tidestromia lanuginosa (Nuttall) Standley subsp. eliassoniana Sánchez-del Pino & Flores Olvera

ANACARDIACEAE
†Rhus aromatica Aiton var. trilobata (Nuttall) A. Gray ex S. Watson
††Rhus cf. aromatica
Rhus kearneyi F.A. Barkley subsp. kearneyi

APIACEAE
Bowlesia incana Ruiz & Pavón
†Daucus pusillus Michaux
Eryngium nasturtiifolium de Jussieu ex F. Delaroche
Lomatium nevadensis (S. Watson) Coulter & Rose
Spermolepis lateriflora G.L. Nesom
[S. echinata (Nuttall) A. Heller, in part]
Yabea microcarpa (Hooker & Arnott) Koso-Poljanski

APOCYNACEAE (includes Asclepiadaceae)
†Asclepias albicans S. Watson
Asclepias erosa Torrey
Asclepias linaria Cavanilles
Asclepias nyctaginifolia A. Gray
Asclepias subulata Decaisne
Funastrum hartwegii (Vail) Schlechter
Haplophyton cimicidum A. de Candolle
Matelea cordifolia Woodson
Matelea parvifolia (Torrey) Woodson
Metastelma arizonicum A. Gray

ASTERACEAE
Acamptopappus sphaerocephalus (Harvey & A. Gray) A. Gray var. sphaerocephalus
Acourtia nana (A. Gray) Reveal & R.M. King
Acourtia wrightii (A. Gray) Reveal & R.M. King
Adenophyllum porophylloides (A. Gray) Strother
Ageratina paupercula (A. Gray) R.M. King & H. Robinson
Ambrosia ambrosioides (Cavanilles) W.W. Payne
†Ambrosia confertiflora de Candolle
Ambrosia cordifolia (A. Gray) W.W. Payne
†Ambrosia deltoidea (Torrey) W.W. Payne
†Ambrosia dumosa (A. Gray) W.W. Payne
Ambrosia dumosa × A. ilicifolia
†Ambrosia ilicifolia (A. Gray) W.W. Payne
Ambrosia monogyra (Torrey & A. Gray ex A. Gray) Strother & B.G. Baldwin
†Ambrosia salsola (Torrey & A. Gray) Strother & B.G. Baldwin var. pentalepis (Rydberg) Strother & B.G. Baldwin
Arida arizonica, *see* Leucosyris arida
Arida carnosa, *see* Leucosyris carnosa
Artemisia dracunculus Linnaeus
†Artemisia ludoviciana Nuttall subsp. albula (Wooton) D.D. Keck
††Artemisia tridentata Nuttall complex
Baccharis brachyphylla A. Gray
Baccharis salicifolia (Ruiz & Pavón) Persoon
Baccharis sarothroides A. Gray
†Bahiopsis parishii (Greene) E.E. Schilling & Panero
Baileya multiradiata Harvey & A. Gray
Baileya pleniradiata Harvey & A. Gray
†Bebbia juncea (Bentham) Greene var. aspera Greene
†Brickellia atractyloides A. Gray var. atractyloides
Brickellia californica (Torrey & A. Gray) A. Gray
†Brickellia coulteri A. Gray var. coulteri
Brickellia frutescens A. Gray
††?Brickellia sp.
††Calycoseris parryi A. Gray
Calycoseris wrightii A. Gray
**Carthamus tinctorius Linnaeus
*Centaurea melitensis Linnaeus
†Chaenactis carphoclinia A. Gray var. carphoclinia
†Chaenactis stevioides Hooker & Arnott
††Chrysothamnus teretifolius (Durand & Hilgard) H.M. Hall
††?Chrysothamnus sp.
†Cirsium neomexicanum A Gray
Diaperia verna (Rafinesque) Morefield var. verna
Dietera asteroides Torrey var. glandulosa (B.L. Turner) D.R. Morgan & R.L. Hartman
Eclipta prostrata (Linnaeus) Linnaeus
†Encelia farinosa A. Gray ex Torrey
Encelia farinosa × E. frutescens
Encelia frutescens (A. Gray) A. Gray
†Ericameria cuneata (A. Gray) McClatchie var. spathulata (A. Gray) H.M. Hall
†Ericameria laricifolia (A. Gray) Shinners
*Erigeron canadensis Linnaeus

Erigeron lobatus A. Nelson
Eriophyllum lanosum (A. Gray) A. Gray
Gaillardia arizonica A. Gray
Gamochaeta stagnalis (I.M. Johnston) Anderberg
†Geraea canescens Torrey & A. Gray
Gutierrezia arizonica (A. Gray) M.A. Lane
†Gutierrezia sarothrae (Pursh) Britton & Rusby
†Gymnosperma glutinosum (Sprengel) Lessing
**Helianthus annuus Linnaeus
Helianthus niveus (Bentham) Brandegee subsp. tephrodes (A. Gray) Heiser
††?Heterotheca sp.
Hymenothrix wislizenii A. Gray
Hymenoxys odorata de Candolle
Isocoma acradenia (Greene) Greene var. acradenia
Koanophyllon palmeri (A. Gray) R.M. King & H. Robinson
*Lactuca serriola Linnaeus
Laennecia coulteri (A. Gray) G.L. Nesom
Leucosyris arida (B.L. Turner & D.B. Horne) Pruski & R.L. Hartman
    [Arida arizonica (R.C. Jackson & R.R. Johnson) D.R. Morgan & R.L. Hartman]
Leucosyris carnosa (A. Gray) Greene
    [Arida carnosa (A. Gray) D.R. Morgan & R.L. Hartman]
Logfia arizonica (A. Gray) Holub
Logfi depressa (A. Gray) Holub
Logfia filaginoides (Hooker & Arnott) Morefield
Machaeranthera tagetina Greene
Malacothrix fendleri A. Gray
Malacothrix glabrata (A. Gray ex D.C. Eaton) A. Gray
Malacothrix sonorae W.S. Davis & P.H. Raven
Monoptilon bellioides (A. Gray) H.M. Hall
*Oncosiphon piluliferum (Linnaeus f.) Källersjö
Packera quercetorum (Greene) C. Jeffrey
Palafoxia arida B.L. Turner & M.I. Morris var. arida
Parthenice mollis A. Gray
Pectis cylindrica (Fernald) Rydberg
Pectis linifolia Linnaeus var. linifolia
Pectis papposa Harvey & A. Gray var. papposa
Perityle ajoensis T.K. Todsen
†Perityle emoryi Torrey
††?Perityle sp.
†Peucephyllum schottii A. Gray
Pleurocoronis laphamioides (Rose) R.M. King & H. Robinson
Pleurocoronis pluriseta (A. Gray) R.M. King & H. Robinson
†?Pleurocoronis sp.
Pluchea odorata (Linnaeus) Cassini var. odorata
†Porophyllum gracile Bentham
Prenanthella exigua (A. Gray) Rydberg
Psathyrotes ramosissima (Torrey) A. Gray
Pseudognaphalium canescens (de Candolle) Anderberg
Psilostrophe cooperi (A. Gray) Greene
Rafinesquia californica Nuttall
†Rafinesquia neomexicana A. Gray

Senecio flaccidus Lessing var. monoensis (Greene) B.L. Turner & T.M. Barkley
Senecio lemmonii A. Gray
Senecio mohavensis A. Gray
*Sonchus asper (Linnaeus) Hill subsp. asper
*Sonchus oleraceus Linnaeus
Stephanomeria exigua Nuttall subsp. exigua
Stephanomeria pauciflora (Torrey) Nelson
Stephanomeria schottii (A. Gray) A. Gray
Stylocline gnaphaloides Nuttall
Stylocline micropoides A. Gray
Tessaria sericea (Nuttall) Shinners
[Pluchea sericea (Nuttall) Coville]
†Thymophylla concinna (A. Gray) Strother
Thymophylla pentachaeta (de Candolle) Small var. belenidium (de Candolle) Strother
Townsendia annua Beaman
Trichoptilium incisum (A. Gray) A. Gray
†Trixis californica Kellogg var. californica
Uropappus lindleyi (de Candolle) Nuttall
**Verbesina encelioides (Cavanilles) Bentham f. & Hooker ex A. Gray
Xanthisma gracile (Nuttall) D.R. Morgan & R.L. Hartman
†Xanthisma spinulosus (Pursh) D.R. Morgan & R.L. Hartman var. gooddingii (A. Nelson) D.R. Morgan & R.L. Hartman
Zinnia acerosa (de Candolle) A. Gray

BERBERIDACEAE
†Berberis haematocarpa Wooton
Berberis harrisoniana Kearney & Peebles
††?Berberis sp.

BIGNONIACEAE
Chilopsis linearis (Cavanilles) Sweet subsp. arcuata (Fosberg) Henrickson

BORAGINACEAE (includes Hydrophyllaceae)
†Amsinckia intermedia Fischer & C.E. Meyer
†Amsinckia tessellata A. Gray var. tessellata
Cryptantha angustifolia, *see* Johstonella angustifolia
†Cryptantha barbigera (A. Gray) Greene
Cryptantha ganderi I.M. Johnston
Cryptantha holoptera, *see* Johnstonella holoptera
†Cryptantha maritima (Greene) Greene
Cryptantha micrantha, *see* Eremocarya micrantha
†Cryptantha pterocarya (Torrey) Greene var. cycloptera (Greene) J.F. Macbride
Cryptantha racemosa, *see* Johnstonella racemosa
††Cryptantha utahensis (A. Gray) Greene
Eremocarya micrantha (Torrey) Greene subsp. micrantha
[Cryptantha micrantha (Torrey) I.M. Johnston var. micrantha]
Eucrypta chrysanthemifolia (Bentham) Greene var. bipinnatifida (Torrey) Constance
Eucrypta micrantha (Torrey) A. Heller
Harpogonella palmeri A. Gray
Heliotropium curassavicum Linnaeus

Johstonella angustifolia (Torrey) Hasenstab & M.G. Simpson
[Cryptantha angustifolia (Torrey) Greene]
Johnstonella holoptera (A. Gray) Hasenstab & M.G Simpson
[Cryptantha holoptera (A. Gray) J.F. Macbride]
†Johnstonella racemosa (S. Watson ex A. Gray) Hasenstab & M.G. Simpson
[Cryptantha racemosa (S. Watson ex A. Gray) Greene]
†Lappula redowskii (Hornemann) Greene var. cupulata (A. Gray) M.E. Jones
Nama demissum A. Gray var. demissum
Nama hispidum A. Gray var. spathulata (Torrey) C.L. Hitchcock
†Pectocarya heterocarpa (I.M. Johnston) I.M. Johnston
†Pectocarya platycarpa (Munz & I.M. Johnston) Munz & I.M. Johnston
Pectocarya recurvata I.M. Johnston
Phacelia affinis A. Gray
Phacelia bombycina Wooton & Standley
Phacelia coerulea Greene
†Phacelia crenulata Torrey ex S. Watson var. ambigua (M.E. Jones) J.F. McBride
Phacelia distans Bentham
Phacelia neglecta M.E. Jones
Phacelia pedicellata A. Gray
Phacelia ramosissima Douglas ex Lehmann
Phacelia rotundifolia Torrey ex S. Watson
††?Phacelia sp.
Pholistima auritum (Lindley) Lilja ex Lindblom var. arizonicum (M.E. Jones) Constance
†Plagiobothrys arizonicus (A. Gray) Greene ex A. Gray
Plagiobothrys jonesii A. Gray
Tiquilia canescens (A. de Candolle) A.T. Richardson var. canescens
Tiquilia palmeri (A. Gray) T.A. Richardson

BRASSICACEAE
††Athysanus pusillus (Hooker) Greene
Boechera perennans (S. Watson) W.A. Weber
**Brassica nigra (Linnaeus) W.D.J. Koch
*Brassica tournefortii Gouan
**Capsella bursa-pastoris (Linnaeus) Medikus
Caulanthus lasiophyllus (Hooker & Arnott) Payson
†Descurainia pinnata (Walter) Britton
Dimorphocarpa pinnatifida Rollins
Dithyrea californica Harvey
Draba cuneifolia Nuttall ex Torrey & A. Gray
†Draba cf. cuneifolia
*Eruca vesicaria (Linnaeus) Cavanilles subsp. sativa (Miller) Thellung
Erysimum capitatum (Douglas ex Hooker) Greene
Hesperidanthus linearifolius (A. Gray) Rydberg
Lepidium densiflorum Schrader
†Lepidium lasiocarpum Nuttall ex Torrey & A. Gray
Lepidium thurberi Wooton
††?Lepidium sp./spp.
Lyrocarpa coulteri Hooker & Harvey
**Matthiola longipetala (Ventenat) de Candolle
**Nasturtium officinale W.T. Aiton
Physaria tenella (A. Nelson) O'Kane & Al-Shehbaz

Sibara angelorum (S.Watson) Greene
Sibara virginica (Linnaeus) Rollins
**Sisymbrium altissimum Linnaeus
*Sisymbrium irio Linnaeus
**Sisymbrium orientale Linnaeus
Streptanthella longirostris (S. Watson) Rydberg
Streptanthus carinatus C. Wright ex A. Gray subsp. arizonicus (S. Watson) Kruckenberg, Rodman, & Worthington
Thelypodium wrightii A. Gray
**Thlaspi arvense Linnaeus
†Thysanocarpus curvipes Hooker

BURSERACEAE
†Bursera microphylla A. Gray

CACTACEAE
†Carnegiea gigantea (Engelmann) Britton & Rose
††Coryphantha vivipera (Nuttall) Britton & Rose
†Cylindropuntia acanthocarpa (Engelmann & J.M. Bigelow) F.M. Knuth
Cylindropuntia acanthocarpa var. coloradensis (L.D. Benson) Pinkava
Cylindropuntia acanthocarpa var. major (Engelmann & J.M. Bigelow) Pinkava
Cylindropuntia acanthocarpa × C. spinosior
Cylindropuntia arbuscula (Engelmann) F.M. Knuth
†Cylindropuntia bigelovii (Engelmann) F.M. Knuth
Cylindropuntia echinocarpa (Engelmann & J.M. Bigelow) F.M. Knuth
†Cylindropuntia cf. fulgida (Engelmann) F.M. Knuth
Cylindropuntia fulgida var. fulgida
Cylindropuntia fulgida var. mamillata (Schott ex Engelmann) Backeberg
†Cylindropuntia leptocaulis (de Candolle) F.M. Knuth
†Cylindropuntia ramosissima (Engelmann) F.M. Knuth
Cylindropuntia spinosior (Engelmann) F.M. Knuth
Cylindropuntia versicolor (Engelmann ex J.M. Coulter) F.M. Knuth
††Cylindropuntia cf. whipplei (Engelmann & J.M. Bigelow) F.M. Knuth
†Echinocactus polycephalus Engelmann & J.M. Bigelow
Echinocactus polycephalus var. polycephalus
Echinocereus engelmannii (Parry ex Engelmann) Lemaire var. acicularis L.D. Benson
Echinocereus engelmannii var. chrysocentrus (Engelmann & J.M. Bigelow) Rümpler
Echinocereus nicholii (L.D. Benson) B.D. Parfitt
Echinocereus santaritensis W. Blum & Rutow
†?Echinocereus sp./spp.
Echinomastus erectocentrus (J.M. Coulter) Britton & Rose var. acunensis (W.T. Marshall) Bravo
†Ferocactus cylindraceus (Engelmann) Orcutt
†Ferocactus emoryi (Engelmann) Orcutt
†Ferocactus wislizeni (Engelmann) Britton & Rose
Grusonia kunzei (Rose) Pinkava
[G. parishii (Orcutt) Pinkava, misapplied to G. kunzei in the flora area. D. Pinkava and M. Baker, pers. com. 2013]
Grusonia wrightiana (E.M. Baxter) E.M. Baxter, Calif. Cactaceae 58, 1935.
[Opuntia wrightiana Baxter, Cactus & Succ. Jour. 4: 283, 1932. O. wrightiana (E.M. Baxter) Peebles, Desert Plant Life 9: 45, 1937. G. kunzei (Rose) Pinkava, misapplied to G. wrightii in the flora area. D. Pinkava and M. Baker, pers. com. 2013]

Grusonia wrightiana E.M. Baxter,
Lophocereus schottii (Engelmann) Britton & Rose var. schottii
Mammillaria grahamii Engelmann subsp. grahamii
†Mammillaria cf. grahamii
Mammillaria tetrancistra Engelmann
Mammillaria thornberi Orcutt
†?Mammillaria sp.
†Opuntia basilaris Engelmann & J.M. Bigelow
Opuntia basilaris var. basilaris
†Opuntia chlorotica Engelmann & J.M. Bigelow
Opuntia engelmannii Salm-Dyck ex Engelmann var. engelmannii
Opuntia engelmannii var. flavispina (L.D. Benson) B.D. Parfitt & Pinkava
**Opuntia engelmannii var. linguiformis (Griffiths) B.D. Parfitt & Pinkava
†Opuntia engelmannii and or O. phaeacantha
Opuntia phaeacantha Engelmann
**Opuntia santa-rita (Griffiths & Hare) Rose
Peniocereus greggii (Engelmann) Britton & Rose var. transmontanus (Engelmann) Backeberg
Peniocereus striatus (Brandegee) Buxbaum
†Stenocereus thurberi (Engelmann) Buxbaum

CAMPANULACEAE
Nemacladus orientalis (McVaugh) Morin
Triodanis biflora (Ruiz & Pavón) Greene

CANNABACEAE
†Celtis pallida Torrey subsp. pallida
†Celtis reticulata Torrey

CAPPARACEAE
Atamisquea emarginata Miers ex Hooker & Arnott

CAPRIFOLIACEAE
††Symphoricarpos sp.

CARYOPHYLLACEAE
Achyronychia cooperi Torrey & A. Gray
Cerastium texanum Britton
Drymaria viscosa S. Watson
**Herniaria hirsuta Linnaeus var. cinerea (de Candolle) Loret & Barrandon
Loeflingia squarrosa Nuttall
Silene antirrhina Linnaeus

CHENOPODIACEAE, see AMARANTHACEAE

CLEOMACEAE
Polanisia dodecandra (Linnaeus) de Candolle subsp. trachysperma (Torrey & A. Gray) H.H. Iltis
Wislizenia refracta Engelmann subsp. refracta

CONVOLVULACEAE
Cuscuta californica Hooker & Arnott var. californica
Cuscuta legitima Costea & Stefanović

Cuscuta salina Engelmann var. salina
Cuscuta tuberculata Brandegee
Cuscuta umbellata Kunth var. umbellata
Evolvulus alsinoides Linnaeus
Ipomoea costellata Torrey
Ipomoea cristulata Hallier
Ipomoea hederacea Jacquin
††?Ipomoea sp.
Jacquemontia pringlei A. Gray

CRASSULACEAE
Crassula connata (Ruiz & Pavón) Berger
Dudleya arizonica Rose
Graptopetalum rusbyi (Greene) Rose

CROSSOSOMATACEAE
†Crossosoma bigelovii S. Watson

CUCURBITACEAE
Brandegea bigelovii (S. Watson) Cogniaux
Cucurbita digitata A. Gray
Cucurbita palmata S. Watson
Echinopepon wrightii (A. Gray) S. Watson
Marah gilensis (Greene) Greene
Tumamoca macdougalii Rose

EUPHORBIACEAE
Acalypha californica Bentham
†Croton sonorae Torrey
Croton wigginsii L.C. Wheeler
Ditaxis adenophora (A. Gray) Pax & K. Hoffmann
Ditaxis brandegeei (Millspaugh) Rose & Standley var. intonsa I.M. Johnston
†Ditaxis lanceolata (Bentham) Pax & K. Hoffmann
†Ditaxis neomexicana (Müller Argoviensis) A. Heller
Ditaxis serrata (Torrey) A. Heller var. serrata
††?Ditaxis sp.
Euphorbia abramsiana L.C. Wheeler
Euphorbia albomarginata Torrey & A. Gray
Euphorbia arizonica Engelmann
Euphorbia capitellata Engelmann
Euphorbia eriantha Bentham
Euphorbia florida Engelmann
Euphorbia heterophylla Linnaeus
†Euphorbia hyssopifolia Linnaeus
†Euphorbia melanadenia Torrey
Euphorbia micromera Boissier ex Engelmann
†Euphorbia micromera and or E. polycarpa
Euphorbia pediculifera Engelmann var. pediculifera
Euphorbia polycarpa Bentham
*Euphorbia prostrata Aiton
Euphorbia setiloba Engelmann ex Torrey

Euphorbia spathulata Lamarck
Euphorbia trachysperma Engelmann
††?Euphorbia spp. (Chamaesyce)
†Jatropha cardiophylla (Torrey) Müller Argoviensis
Jatropha cinerea (Ortega) Müller Argoviensis
†Jatropha cuneata Wiggins & Rollins
†Sebastiania bilocularis S. Watson
Stillingia linearifolia S. Watson
†Tragia nepetifolia Cavanilles

FABACEAE
Acaciella angustissima (Miller) Britton & Rose
Acmispon brachycarpus (Bentham) D.D. Sokoloff
Acmispon maritimus (Nuttall) D.D. Sokoloff var. brevivexillus (Ottley) Brouillet
†Acmispon rigidus (Bentham) Brouilett
Acmispon strigosus (Nuttall) Brouillet
††?Acmispon sp. spp.
Astragalus didymocarpus Hooker & Arnott var. dispermus (A. Gray) M.E. Jones
Astragalus insularis Kellogg var. harwoodii Munz & McBurney
Astragalus lentiginosus Douglas ex Hooker var. australis Barneby
Astragalus lentiginosus var. yuccanus M.E. Jones
†Astragalus nuttallianus de Candolle
Astraglaus nuttalianus cf. var. imperfectus (Rydberg) Barneby
††?Astragalus sp.
Calliandra eriophylla Bentham
†Coursetia glandulosa A. Gray
†Dalea mollis Bentham
Dalea pogonathera A. Gray var. pogonathera
Dalea pringlei A. Gray var. pringlei
Desmodium procumbens (Miller) Hitchcock
Galactia wrightii A. Gray
Hoffmannseggia glauca (Ortega) Eifort
Lupinus arizonicus (S. Watson) S. Watson
Lupinus concinnus J. Agardh
Lupinus sparsiflorus Bentham
††?Lupinus sp. spp.
†Marina parryi (Torrey & A. Gray) Barneby
**Medicago polymorpha Linnaeus
*Melilotus indicus (Linnaeus) Allioni
Mimosa distachya Cavanilles var. laxiflora (Bentham) Barneby
Nissolia schottii (Torrey) A. Gray
†Olneya tesota A. Gray
**Parkinsonia aculeata Linneaus
†Parkinsonia florida (Bentham ex A. Gray) S. Watson
†Parkinsonia microphylla Torrey
Phaseolus acutifolius A. Gray var. acutifolius
Phaseolus filiformis A. Gray
Prosopis glandulosa Torrey var. torreyana (L.D. Benson) M.C. Johnston
†Prosopis glandulosa and or P. velutina
Prosopis pubescens Bentham
Prosopis velutina Wooton

Psorothamnus emoryi (A. Gray) Rydberg var. emoryi
Psorothamnus fremontii (Torrey ex A. Gray) Barneby
Psorothamnus spinosus (A. Gray) Barneby
Rhynchosia texana Torrey & A. Gray
†Senegalia greggii (A. Gray) Britton & Rose
†Senna covesii (A. Gray) H.S. Irwin & Barneby
Tephrosia vicioides Schlechtendal
Trifolium wormskioldii Lehmann
†Vachellia constricta (Bentham) Seigler & Ebinger
Vicia ludoviciana Nuttall ex Torrey & A. Gray var. ludoviciana

FAGACEAE
†Quercus turbinella Greene

FOUQUIERIACEAE
†Fouquieria splendens Engelmann subsp. splendens

GENTIANACEAE
Eustoma exaltatum (Linnaeus) Salisbury ex G. Don subsp. exaltatum
Zeltnera arizonica (A. Gray) G. Mansion

GERANIACEAE
*Erodium cicutarium (Linnaeus) L'Héritier ex Aiton
†Erodium texanum A. Gray
Geranium carolinianum Linnaeus

GROSSULARIACEAE
Ribes quercetorum Greene

HYDROPHYLLACEAE, see BORAGINACEAE

KOEBERLINIACEAE
†Koeberlinia spinosa Zuccarini

KRAMERIACEAE
Krameria bicolor S. Watson
†Krameria erecta Wildenow & Schultes

LAMIACEAE
Hedeoma nana (Torrey) Briquet var. macrocalyx W.S. Stewart
†Hedeoma cf. nana
†Hyptis albida Kunth
†Monardella arizonica Epling
Salvia columbariae Bentham
††Salvia mohavensis Greene
†Salvia pinguifolia (Fernald) Wooton & Standley
**Salvia reflexa Hornemann
Salvia vaseyi (Porter) Parish
Scutellaria mexicana (Torrey) A.J. Patton
Teucrium cubense Jacquin subsp. depressum (Small) E.M. McClintock & Epling
Teucrium glandulosum Kellogg

LINACEAE
Linum lewisii Pursh var. lewisii

LOASACEAE
Eucnide rupestris (Baillon) H.J. Thompson & W.R. Ernst
Mentzelia affinis Greene
Mentzelia albicaulis Douglas ex Hooker
Mentzelia involucrata S. Watson
Mentzelia isolata Gentry
Mentzelia longiloba J. Darlington var. yavaipenis J.J. Schenk & L. Hufford
†Mentzelia puberula J. Darlington
†Petalonyx linearis Greene
Petalonyx thurberi A. Gray subsp. thurberi

LYTHRACEAE (includes Punicaceae)
**Punica granatum Linnaeus

MALPIGHIACEAE
†Cottsia gracilis (A. Gray) W.R. Anderson & C. Davis

MALVACEAE (includes Sterculiaceae)
Abutilon abutiloides (Jacquin) Garcke ex Hochreutiner
Abutilon incanum (Link) Sweet
Abutilon malacum S. Watson
Abutilon palmeri A. Gray
††?Abutilon sp.
Anoda abutiloides A. Gray
Anoda pentaschista A. Gray
Ayenia filiformis S. Watson
†Ayenia microphylla A. Gray
†Eremalche exilis (A. Gray) Greene
†Herissantia crispa (Linnaeus) Brizicky
Hermannia pauciflora S. Watson
Hibiscus biseptus S. Watson
Hibiscus coulteri Harvey ex A. Gray
†Hibiscus denudatus Bentham
Horsfordia alata (S. Watson) A. Gray
Horsfordia newberryi (S. Watson) A. Gray
††?Horsfordia sp. spp.
*Malva parviflora Linnaeus
Malvastrum bicuspidatum (S. Watson) Rose subsp. bicuspidatum
Malvella leprosa (Ortega) Krapovickas
Malvella sagittifolia (A. Gray) Fryxell
Rhynchosida physocalyx (A. Gray) Fryxell
Sida abutifolia Miller
†Sphaeralcea ambigua A. Gray subsp. ambigua
Sphaeralcea coulteri (S. Watson) A. Gray
Sphaeralcea emoryi Torrey ex A. Gray
Sphaeralcea laxa Wooton & Standley
††?Sphaeralcea sp. spp. (may include *S. ambigua*)

MARTYNIACEAE
Proboscidea altheifolia (Bentham) Decaisne
Proboscidea parviflora (Wooton) Wooton & Standley subsp. parviflora

MOLLUGINACEAE
*Glinus lotoides Linnaeus
*Mollugo cerviana (Linnaeus) Séringe

MONTIACEAE
Calandrinia ciliata (Ruiz & Pavón) de Candolle
Cistanthe monandra (Nuttall) Hershkovitz
Claytonia perfoliata Donn ex Willdenow subsp. mexicana (Rydberg) J.M. Miller & K.L. Chambers
Phemeranthus aurantiacus (Engelmann) Kiger

MORACEAE
**Ficus carica Linnaeus
Morus microphylla Buckley

NYCTAGINACEAE
Abronia villosa S. Watson var. villosa
Acleisanthes longiflora A. Gray
†Allionia incarnata Linnaeus
*Boerhavia coccinea Miller
Boerhavia erecta Linnaeus
Boerhavia megaptera Standley
†Boerhavia cf. megaptera Standley
Boerhavia pterocarpa S. Watson.
Boerhavia spicata Choisy var. palmeri S. Watson
Boerhavia triquetra S. Watson
†Boerhavia wrightii A. Gray
††?Boerhavia sp.
Commicarpus scandens (Linnaeus) Standley
Mirabilis coccinea (Torrey) Bentham & Hooker f.
†Mirabilis laevis (Bentham) Curran var. villosa (Kellogg) Spellenberg
††Mirabilis cf. linearis (Pursh) Heimerl
Mirabilis multiflora (Torrey) A. Gray
Mirabilis tenuiloba S. Watson

OLEACEAE
†Forestiera phillyreoides (Bentham) Torrey
†Forestiera cf. pubescens Nuttall
Fraxinus velutina Torrey
Menodora scabra A. Gray
††?Menodora sp.

ONAGRACEAE
Chylismia arenaria A. Nelson
Chylismia claviformis (Torrey & Frémont) A. Heller subsp. peeblesii (Munz) W.L. Wagner & Hoch
Chylismia claviformis subsp. rubescens (P.H. Raven) W.L. Wagner & Hoch
Epilobium canum (Greene) P.H. Raven subsp. latifolium (Hooker) P.H. Raven
Eremothera boothii (Douglas) W.L. Wagner & Hoch subsp. condensata (Munz) W.L. Wagner & Hoch

Eremothera chamaenerioides (A. Gray) W.L. Wagner & Hoch
Eulobus californicus Nuttall ex Torrey & A. Gray
Oenothera arizonica (Munz) W.L. Wagner
Oenothera curtiflora W.L. Wagner & Hoch
Oenothera deltoides Torrey & Frémont subsp. deltoides
Oenothera primiveris A. Gray

OROBANCHACEAE (includes Scrophulariaceae, in part)
Castilleja exserta (A. Heller) T.I. Chuang & Heckard subsp. exserta
Castilleja lanata A. Gray
††?Castilleja sp. spp.
†Orobanche cooperi (A. Gray) A. Heller
Orobanche fasciculata Nuttall

OXALIDACEAE
Oxalis albicans Kunth

PAPAVERACEAE
Argemone gracilenta Greene
**Argemone ochroleuca Sweet subsp. ochroleuca
Eschscholzia californica Chamisso subsp. mexicana (Greene) C. Clark
Eschscholzia minutiflora S. Watson

PHRYMACEAE (includes Scrophulariaceae, in part)
Erythranthe cordata (Greene) G.L.Nesom
[Mimulus cordatus Greene. M. guttatus Fischer ex de Candolle, in part, missaplied]
Erythranthe rubella (A. Gray) N.S. Fraga
[Mimulus rubellus A. Gray]

PHYTOLACCACEAE
Rivina humilis Linnaeus

PLANTAGINACEAE (includes Scrophulariaceae, in part)
Keckiella antirrhinoides (Bentham) Straw subsp. microphylla A. Gray) Straw
Maurandya antirrhiniflora Humboldt & Bonpland ex Willdenow
Neogaerrhinum filipes (A. Gray) Rothmaler
Nuttallanthus texanus (Scheele) D.A. Sutton
Penstemon parryi (A. Gray) A. Gray
Penstemon pseudospectabilis M.E. Jones subsp. pseudospectabilis
††?Penstemon sp.
†Plantago ovata Forsskål var. fastigiata (E. Morris) S.C. Meyers & Liston
Plantago patagonica Jacquin
Pseudorontium cyathiferum (Bentham) Rothmaler
Sairocarpus pusillus (Brandegee) D.A. Sutton
Sairocarpus watsonii (Vasey & Rose) D.A. Sutton
Stemodia durantifolia (Linnaeus) Swartz
Veronica peregrina Linnaeus subsp. xalapensis (Kunth) Pennell

PLUMBAGINACEAE
Plumbago zeylanica Linnaeus

POLEMONIACEAE
Aliciella latifolia (S. Watson) J.M. Porter subsp. latifolia
Eriastrum diffusum (A. Gray) H. Mason
Eriastrum eremicum (Jepson) H. Mason subsp. yageri (M.E. Jones) H. Mason
Gilia flavocincta A. Nelson subsp. australis (A.D. & V.E. Grant) A.G. Day & V.E. Grant
Gilia stellata A. Heller
††?Gila sp.
Ipomopsis multiflora (Nuttall) V.E. Grant
Langloisia setosissima (Torrey & A. Gray) Greene subsp. setosissima
Leptosiphon aureus (Nuttall) J.M. Porter & L.A. Johnson subsp. aureus
Linanthus aureus (Nuttall) Greene
Linanthus bigelovii (A. Gray) Greene
Linanthus cf. bigelovii
Linanthus cf. bigelovii × jonesii (possible hybrid)
Linanthus demissus (A. Gray) Greene
Linanthus jonesii (A. Gray) Greene
Linanthus cf. jonesii
Loeseliastrum schottii (Torrey) Timbrook
Phlox tenuifolia E.E. Nelson

POLYGALACEAE
Polygala macradenia A. Gray

POLYGONACEAE
†Chorizanthe brevicornu Torrey subsp. brevicornu
†Chorizanthe corrugata (Torrey) Torrey & A. Gray
†Chorizanthe rigida (Torrey) Torrey & A. Gray
†Eriogonum abertianum Torrey
Eriogonum deflexum Torrey var. deflexum
†Eriogonum fasciculatum Bentham (var. unknown)
†Eriogonum fasciculatum var. polifolium (Bentham) Torrey & A. Gray
Eriogonum inflatum Torrey & Frémont
Eriogonum maculatum A. Heller
Eriogonum thomasii Torrey
Eriogonum thurberi Torrey
Eriogonum trichopes Torrey
†Eriogonum wrightii Torrey ex Bentham (var. unknown)
†Eriogonum wrightii var. nodosum (Small) Reveal
Nemacaulis denudata Nuttall var. gracilis Goodman & L.D. Benson
*Polygonum argyrocoleon Steudel ex Kunze
Pterostegia drymarioides Fischer & C.A. Meyer
Rumex hymenosepalus Torrey

PORTULACACEAE
Portulaca halimoides Linnaeus
*Portulaca oleracea Linnaeus
Portulaca suffrutescens Engelmann
Portulaca umbracticola Kunth

PRIMULACEAE
**Anagallis arvensis Linnaeus subsp. arvensis

Androsace occidentalis Pursh

PUNICACEAE, see LYTHRACEAE

RANUNCULACEAE
†Anemone tuberosa Rydberg
Clematis drummondii Torrey & A. Gray
Delphinium scaposum Greene
†Myosurus cupulatus S. Watson
Myosurus minimus Linnaeus
††Myosurus nitidus Eastwood

RESEDACEAE
Oligomeris linifolia (Vahl) J.F. Macbride

RHAMNACEAE
††Ceanothus vestitus Greene
Condalia globosa I.M. Johnston var. pubescens I.M. Johnston
††?Condalia globosa & or C. warnockii
Frangula betulifolia (Greene) Grubov
Rhamnus crocea Nuttall
†Ziziphus obtusifolia (Hooker ex Torrey & A. Gray) A. Gray var. canescens (A. Gray) M.C. Johnston

ROSACEAE
†Vauquelinia californica (Torrey) Sargent subsp. sonorensis W.J. Hess & Henrickson

RUBIACEAE
Galium aparine Linnaeus
Galium microphyllum A. Gray
†Galium stellatum Kellogg

RUTACEAE
Ptelea trifoliata Linnaeus
†Thamnosma montana Torrey & Frémont

SALICACEAE
Populus fremontii S. Watson subsp. fremontii
Salix gooddingii C.R. Ball

SANTALACEAE
†Phoradendron californicum Nuttall
††Phoradendron juniperinum Engelmann
††Phoradendron serotinum (Rafinesque) M.C. Johnston

SAPINDACEAE
Dodonaea viscosa Jacquin var. angustifolia (Linnaeus f.) Bentham
Sapindus drummondii Hooker & Arnott

SCROPHULARIACEAE, see OROBANCHACEAE, PHRYMACEAE, and PLANTAGINACEAE

SIMAROUBACEAE
Castela emoryi (A. Gray) Moran & Felger

SIMMONDSIACEAE
†Simmondsia chinensis (Link) C.K. Schneider

SOLANACEAE
Capsicum annuum Linnaeus var. glabriusculum (Dunal) Heiser & Pickersgill
Chamaesaracha coronopus (Dunal) A. Gray
Datura discolor Bernhardi
††Datura wrightii Regel
Lycium andersonii A. Gray var. andersonii
Lycium berlandieri Dunal var. longistylum C.L. Hitchcock
†Lycium cf. berlandieri
Lycium californicum Nuttall ex A. Gray var. californicum
Lycium exsertum A. Gray
Lycium fremontii A. Gray var. fremontii
†Lycium macrodon A. Gray var. macrodon
Lycium parishii A. Gray var. parishii
††?Lycium sp. spp.
Nicotiana clevelandii A. Gray
**Nicotiana glauca Graham var. glauca
†Nicotiana obtusifolia Martens & Galeotti
Petunia parviflora de Jussieu
*Physalis acutifolia (Miers) Sandwith
Physalis lobata Torrey
Physalis versicolor Rydberg
††?Physalis sp. spp.
*Solanum americanum Miller
Solanum douglasii Dunal
†Solanum hindsianum Bentham
Solanum xanti A. Gray

STERCULIACEAE, see MAVACEAE

TALINACEAE
Talinum paniculatum (Jacquin) Gaertner

TAMARICACEAE
**Tamarix aphylla (Linnaeus) Karsten
*Tamarix chinensis Loureiro

ULMACEAE, see CANNABACEAE

URTICACEAE
†Parietaria hespera B.D. Hinton var. hespera

VERBENACEAE
Aloysia wrightii (A. Gray) A. Heller ex Abrams
Glandularia gooddingii (Briquet) Solbrig

Glandularia latiloba (L.M. Perry) G.L. Nesom
[Glandularia bipinnatifida (Nuttall) Nuttall var. latilobata (L.M. Perry) B.L. Turner]
††?Glandularia sp. spp.
**Lantana camara Linnaeus
Tetraclea coulteri A. Gray
Verbena bracteata Lagasca & Rodriguez
Verbena menthifolia Bentham
Verbena xylopoda (L.M. Perry) G.L. Nesom

VISCACEAE, see SANTALACEAE

ZYGOPHYLLACEAE
Fagonia californica Bentham subsp. californica
Fagonia californica subsp. longipes (Standley) Felger & C.H. Lowe
Fagonia pachyacantha Rydberg
Kallstroemia californica (S. Watson) Vail
Kallstroemia grandiflora Torrey ex A. Gray
††?Kallstroemia sp. spp.
†Larrea divaricata Cavanilles subsp. tridentata (Sessé & Moçiño ex de Candolle) Felger & C.H. Lowe
*Tribulus terrestris Linnaeus

MONOCOTYLEDONS

AGAVACEAE, see ASPARAGACEAE

ALISMATACEAE
Sagittaria sp.?

ALLIACEAE, see AMARYLLIDACEAE

AMARYLLIDACEAE
Allium macropetalum Rydberg
Habranthus longifolius (Hemsley) Flagg, G. Lom. Smith & Meerow
[Zephyranthes longifolia Hemsley]

ARECACEAE
**Washingtonia filifera (Linden ex André) H. Wendland de Barry

ASPARAGACEAE (includes Agavaceae, Nolinaceae, Ruscaceae, Themidaceae)
Agave ×ajoensis W.C. Hodgson
†Agave deserti Engelmann subsp. simplex Gentry
Agave schottii Engelmann var. schottii
Dichelostemma capitatum (Bentham) Alph. Wood subsp. pauciflorum (Torrey) Keator
Hesperocallis undulata A. Gray
††Hesperoyucca whipplei (Torrey) Baker
†Nolina bigelovii (Torrey) S. Watson
†Nolina microcarpa S. Watson
Triteleiopsis palmeri (S. Watson) Hoover
Yucca baccata Torrey var. brevifolia L.D. Benson & Darrow
†Yucca baccata (var. unknown)

††Yucca brevifolia Engelmann
Yucca elata Engelmann

COMMELINACEAE
Commelina erecta Linnaeus

CYPERACEAE
Cyperus esculentus Linnaeus var. leptostachyus Boeckeler
Cyperus laevigatus Linnaeus
Cyperus mutisii (Kunth) Andersson
Cyperus squarrosus Linnaeus
Eleocharis coloradoensis (Britton) Gilly
Eleocharis flavescens (Pioret) Urban var. flavescens
Eleocharis rostellata (Torrey) Torrey
Schoenoplectus americanus (Persoon) Volkart ex Schinz & R. Keller

HYDROCHARITACEAE (includes Najadaceae)
Najas marina Linnaeus

IRIDACEAE
Sisyrinchium demissum Greene

JUNCACEAE
Juncus bufonius Linnaeus
Juncus cooperi Engelmann
Juncus mexicanus Willdenow ex Schultes & Schultes f.

LILIACEAE
Calochortus kennedyi Porter

NOLINACEAE, see ASPARAGACEAE

POACEAE
†Aristida adscensionis Linnaeus
Aristida californica Thurber var. californica
Aristida californica var. glabrata Vasey
†Aristida purpurea Nuttall var. nealleyi (Vasey) Allred
Aristida purpurea var parishii (Hitchcock) Allred
†Aristida cf. purpurea
Aristida ternipes Cavanilles var. gentilis (Henrard) Allred
Aristida ternipes var. ternipes
*Avena fatua Linnaeus
†Bothriochloa barbinodis (Lagasca) Herter
†Bothriochloa cf. barbinodis
†Bouteloua aristidoides (Kunth) Grisebach
Bouteloua barbata Lagasca var. barbata
Bouteloua barbata var. rothrockii (Vasey) Gould
†Bouteloua barbata var. barbata and or var. rothrockii
†Bouteloua curtipendula (Michaux) Torrey
†Bouteloua repens (Kunth) Scribner & Merrill
†Bouteloua trifida Thurber

Bromus carinatus Hooker & Arnott
*Bromus madritensis Linnaeus subsp. rubens (Linnaeus) Husnot
**Bromus tectorum Linnaeus
*Cenchrus ciliaris Linnaeus
*Cenchrus echinatus Linnaeus
*Cenchrus setaceus (Forsskål) Morrone
*Cenchrus spinifex Cavanilles
Chloris virgata Swartz
Cottea pappophoroides Kunth
*Cynodon dactylon (Linnaeus) Persoon var. dactylon
*Dactyloctenium aegyptium (Linnaeus) Willdenow
†Dasyochloa pulchella (Kunth) Willdenow ex Rydberg
†Digitaria californica (Bentham) Henrard var. californica
Dinebra panicea (Retzius) P.M. Peterson & N. Snow subsp. brachiata (Steudel) P.M. Peterson & N. Snow
[Leptochloa panicea (Retzius) Ohwi subsp. brachiata (Steudel) N.W. Snow]
Dinebra viscida (Scribner) P.M. Peterson & N. Snow
[Leptochloa viscida (Scribner) Beal]
Diplachne fusca (Linnaeus) P. Beauvois ex Roemer & Schultz subsp. uninervia (J. Presl) P.M. Peterson & N. Snow
[Leptochloa fusca (Linnaeus) Kunth subsp. uninervia (J. Presl) N. Snow]
Disakisperma dubium (Kunth) P.M. Peterson & N. Snow
[Leptochloa dubia (Kunth) Nees]
Distichlis spicata (Linnaeus) Greene
*Echinochloa colona (Linnaeus) Link
*Echinochloa crus-galli (Linnaeus) P. Beauvois
Elymus elymoides (Rafinesque) Swezey var. brevifolius (J.G. Smith) Dorn
†Elymus cf. elymoides
*Enneapogon cenchroides (Lichtenstein ex Roemer & Schultes) C.E. Hubbard
Enneapogon desvauxii P. Beauvis
**Eragrostis barrelieri Daveau
*Eragrostis cilianensis (Allioni) Vignolo Lutati ex Janchen
Eragrostis intermedia Hitchcock
*Eragrostis lehmanniana Nees
Eragrostis pectinacea (Michaux) Nees var. pectinacea
†Eragrostis cf. pectinacea
†Eriochloa acuminata (J. Presl) Kunth var. acuminata
Eriochloa aristata Vasey var. aristata
†Festuca microstachys Nuttall
†Festuca octoflora Walter
††?Festuca (*Vulpia*) sp.
†Heteropogon contortus (Linnaeus) P. Beauvois ex Roemer & Schultes
Hilaria belangeri (Steudel) Nash
†Hilaria rigida (Thurber) Bentham ex Scribner
Hopia obtusa (Kunth) Zuloaga & Morrone
*Hordeum murinum Linnaeus subsp. glaucum (Steudel) Tzvelev
††Hordeum pusillum Nuttall
Leptochloa crinitia (Lagasca) P.M. Peterson & N. Snow
[Trichloris crinita (Lagasca) Parodi]
Leptochloa dubia, *see* Disakisperma dubium
Leptochloa fusca subsp uninervia, *see* Diplachne fusca subsp uninervia

Leptochloa panicea subsp brachiata, *see* Dinebra panicea subsp brachiata
Leptochloa viscida, *see* Dinebra viscida
Melica frutescens Scribner
Muhlenbergia alopecuroides (Grisebach) P.M. Peterson & Columbus
Muhlenbergia appressa C.O. Goodding
Muhlenbergia dumosa Scribner ex Vasey
†Muhlenbergia emersleyi Vasey
Muhlenbergia fragilis Swallen
†Muhlenbergia microsperma (de Candolle) Kunth
††Muhlenbergia polycaulis Scribner
Muhlenbergia porteri Scribner ex Beal
Muhlenbergia rigens (Bentham) Hitchcock
Muhlenbergia tenuifolia (Kunth) Kunth
Panicum alatum Zuloaga & Morrone var. alatum
*Panicum antidotale Retzius
†Panicum hallii Vasey var. hallii
†Panicum hirticaule J. Presl var. hirticaule
Pappophorum vaginatum Buckley
††Paspalum sp.
*Phalaris caroliniana Walter
*Phalaris minor Retzius
Phragmites australis (Cavanilles) Trinius ex Steudel subsp. berlandieri (E. Fournier) Saltonstall & Hauber
**Poa annua Linnaeus
†Poa bigelovii Vasey & Scribner
††Poa fendleriana (Steudel) Vasey
*Polypogon monspeliensis (Linnaeus) Desfontaines
*Polypogon viridis (Gouan) Breistroffer
*Schismus arabicus Nees
*Schismus barbatus (Linnaeus) Thellung
†Setaria grisebachii E. Fournier
Setaria liebmannii E. Fournier
†Setaria macrostachya Kunth
*Sorghum halepense (Linnaeus) Persoon
Sporobolus airoides (Torrey) Torrey subsp. airoides
Sporobolus cryptandrus (Torrey) A. Gray
Sporobolus flexuosus (Thurber ex Vasey) Rydberg
Sporobolus pyramidatus (Lamarck) Hitchcock
†Stipa speciosa Trinius & Ruprecht var. speciosa
Trichloris crinita, *see* Leptochloa crinitia
Tridens eragrostoides (Vasey & Scribner) Nash
†Tridens muticus (Torrey) Nash var. muticus
**Triticum aestivum Linnaeus
Urochloa arizonica (Scribner & Merrill) Morrone & Zuloaga
††Zuloagaea bulbosa (Kunth) Bess

POTAMOGETONACEAE (includes Zannichelliaceae)
Stuckenia pectinata (Linnaeus) Börner
Zannichellia palustris Linnaeus

RUPPIACEAE
Ruppia cirrhosa (Petagna) Grande

RUSCACEAE, see ASPARAGACEAE

THEMIDACEAE, see ASPARAGACEAE

TYPHACEAE
Typha domingensis Persoon

ZANNICHELLIACEAE, see POTAMOGETONACEAE

MOUNTAIN PLANTS OF ORGAN PIPE CACTUS NATIONAL MONUMENT

Approximately 135 taxa (132 species, one variety, and two hybrids) within the flora area are known only from the higher, larger mountains in the Monument. All 135 occur in the Ajo Mountains and some have population in other larger mountains in Organ Pipe, mostly at their upper elevations, i.e., Bates (BT), Diablo (DM), Growler (GM), Puerto Blanco (PB), and Santa Rosa (SR) Mountains (Fig. 2). Most of these populations are essentially desert "sky island" populations although some occur at lower elevations in these mountains. *Ericameria cuneata* probably also occurs in the Cabeza Prieta NWR portion of upper elevations in the Growler Mountains.

PTERIDACEAE
Argyrochosma limitanea
Astrolepis sinuata (BT)
Bommeria hispida (SR)
Cheilanthes villosa
Cheilanthes wrightii (BT)
Cheilanthes yavapensis
Pentagramma triangularis

GYMNOSPERMS
CUPRESSACEAE
Juniperus arizonica (PB)

EUDICOTS
ACANTHACEAE
Dicliptera resupinata
Justicia candicans
Justicia longii

AMARANTHACEAE
Amaranthus ×tucsonensis
Gomphrena sonorae

ANACARDIACEAE
Rhus aromatica

APIACEAE
Lomatium nevadense
Yabea microcarpa

APOCYNACEAE
Asclepias linaria
Haplophyton cimicidum
Matelea cordifolia

ASTERACEAE
Ageratina paupercula
Ambrosia cordifolia (DM)
Artemisia dracunculus
Brickellia californica
Brickellia frutescens (PB)
Ericameria cuneata (GM?)
Ericameria laricifolia
Gamochaeta stagnalis
Koanophyllon palmeri
Machaeranthera tagetina (DM)
Packera quercetorum
Perityle ajoensis
Pseudognaphalium canescens

BERBERIDACEAE
Berberis haematocarpa
Berberis harrisoniana

BORAGINACEAE
Harpogonella palmeri (SR)
Phacelia ramosissima

BRASSICACEAE
Boechera perennans
Erysimum capitatum
Hesperidanthus linearifolius (PB)
Thelypodium wrightii (DM)

CACTACEAE
Echinocereus santaritensis

CAMPANULACEAE
Triodanis biflora

CANNABACEAE
Celtis reticulata

CARYOPHYLLACEAE
Cerastium texanum (DM)

CONVOLVULACEAE
Cuscuta californica (SR)
Ipomoea costellata
Ipomoea cristulata
Jacquemontia pringlei

CRASSULACEAE
Graptopetalum rusbyi

CUCURBITACEAE
Echinopepon wrightii
Marah gilensis

EUPHORBIACEAE
Euphorbia arizonica?
Euphorbia capitellata
Euphorbia melanadenia

FABACEAE
Acaciella angustissima
Astragalus didymocarpus
Dalea pringlei
Desmodium procumbens
Galactia wrightii
Mimosa distachya (SR)
Nissolia schottii (SR)
Phaseolus acutifolius
Rhynchosia texana
Tephrosia vicioides
Trifolium wormskioldii (DM)

FAGACEAE
Quercus turbinella

GERANIACEAE
Geranium carolinianum

GROSSULARIACEAE
Ribes quercetorum

LAMIACEAE
Monardella arizonica
Salvia pinguifolia

MALVACEAE
Abutilon abutiloides (PB)
Anoda abutiloides
Anoda pentaschista
Hermannia pauciflora
Hibiscus biseptus
Malvastrum bicuspidatum

Sida abutifolia

MONTIACEAE
Calandrinia ciliata (PB)
Claytonia perfoliata
Phemeranthus aurantiacus

MORACEAE
Morus microphylla

NYCTAGINACEAE
Boerhavia megaptera
Mirabilis coccinea
Mirabilis multiflora

OLEACEAE
Forestiera phyllyreoides (PB)
Fraxinus velutina

ONAGRACEAE
Epilobium canum

OXALIDACEAE
Oxalis albicans

PHYTOLACCACEAE
Rivina humilis (DM)

PLANTAGINACEAE
Castilleja lanata
Keckiella antirrhinoides
Stemodia durantifolia

PLUMBAGINACEAE
Plumbago zeylanica

POLEMONIACEAE
Ipomopsis multiflora
Phlox tenuifolia (DM)

PORTULACACEAE
Portulaca suffrutescens
Portulaca umbracticola

PRIMULACEAE
Androsace occidentalis (DM)

RANUNCULACEAE
Anemone tuberosa
Myosurus cupulatus

RHAMNACEAE
Frangula betulifolia
Rhamnus crocea

ROSACEAE
Vauquelinia californica (DM, PB)

RUBIACEAE
Galium microphyllum

RUTACEAE
Ptelea trifoliata

SOLANACEAE
Capsicum annuum
Solanum douglasii (BT, DM)
Solanum xanti

TALINACEAE
Talinum paniculatum

MONOCOTYLEDONS

AMARYLLIDACEAE
Habranthus longifolius

ASPARAGACEAE
Agave ×ajoensis
Agave schottii (DM)
Nolina microcarpa
Yucca baccata

COMMELINACEAE
Commelina erecta

LILIACEAE
Calochortus kennedyi

POACEAE
Bouteloua barbata var. rothrockii (BT)
Bouteloua curtipendula (PB)
Disakisperma dubium
Elymus elymoides
Eragrostis intermedia
Festuca microstachys
Hilaria belangeri
Melica frutescens
Muhlenbergia alopecuroides
Muhlenbergia appressa
Muhlenbergia dumosa
Muhlenbergia emersleyi

Muhlenbergia fragilis
Muhlenbergia rigens
Muhlenbergia tenuifolia
Pappophorum vaginatum
Setaria grisebachii
Setaria liebmannii
Tridens eragrostoides

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